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Let me ask you not to be writing these things during the class then if possible. I asked them to give you the option of turning them in later if possible because there is a lot to cover tonight. Partly I have the sense of having lost one lecture to sickness and various other problems. I would have been glad to make up one myself but my own schedule doesn't permit it right at this moment. I'm leaving the country tomorrow for a week. OK?

I had mentioned last time (thought I had) for describing in a very rather personal way one man's cold war, or in and out of the cold war but Larry Howard pointed out to me that we really needed I think more discussion of how various things tie together. How the reading ties together of your last assignments for the final exam and I will try to work in comments and also entertain questions on the reading in particular. Both past and present. By the way this is the first time I've really given this course or almost any course and I've learned a lot from it in various ways. I wish that I'd integrated the reading more into the lectures. I think that was a fault here in the presentation. I've done very little direct reference. But I picked reading whose significance I hoped would be apparent to you in relation to the lectures. I'm not entirely sure whether that has worked out or not. I'd be very interested to know at this point, frankly, how many people found the reading useful, interesting, helpful? Oh, that's very good. How many didn't, actually, or were puzzled by it? Good. I want to see some honest. Probably a little more. Would you like some brief comments on the reading that remains for the last couple of weeks? Yes? Well, I'll

work it in more in the course of the lectures, but I'll give some capsule comments on what's coming up here that you haven't been tested on so far.

We went over exam questions this afternoon already. I think they are good ones. Many of them suggested by members of the class as before. And the purpose again I think will be focused more on substance of the reading rather than a simple quiz as in the first case to see whether you've flipped through the pages or not. So it will take some understanding of the main points of the reading. I think they do pretty well focus on some of the main points and that's the objective.

How many have read one or more of the pieces for the last two weeks? How many have not reread any of those yet? Maybe a little less than half—half and half. Well some of you will have read these then and some will not. I'll just make very fast capsule comments at this moment to see why I put these in the reading.

The Elizabeth Drew is a very exceptional piece of reporting I think on the political maneuvering that went into the Scowcroft Commission, which you read, which was in turn critical, as she concludes, to this stage of the approval of the MX—to getting approval in both houses for funding of the first production money for the MX and getting the testing under way last year.

Some of you, I think, will see a fair contrast between, on the one hand, the Scowcroft Report (what could be said to be a critique of the Scowcroft Report although it was written before the Scowcroft Report by the group from the Council on Economic Priorities; all this was in the previous week's session, David Gold, Chris Paine and others; the part you

read was in particular by Chris Paine) and on the other hand a contrast to the pieces assigned in connection with Lecture 8 by Chris Paine, "Reagatomics," and on the other hand the Thomas Powers piece, "Choosing a Strategy." These latter two pieces are very much in the spirit of the emphasis that I've given in this course to a strategic concept underlying weapons, underlying weapons buying, and underlying the possible use of these weapons. Chris Paine is probably closer as a writer (a very, in my opinion, extremely talented strategic analyst; and I partly am able to perceive that all the more easily because I think he and I think alike closer on these issues than most other people, many of whom I respect equally but we don't quite see things exactly alike).

So the perspective that you'll see in the "Reagatomics" article from The Nation as to what the Reagan Administration and its predecessor, the Carter Administration, was up to in ordering these weapons—the general strategic purposes they served—is a perspective very close, I can say, to my own, and certainly to the perspective I've emphasized in this course. Now I make a little distinction there because, as I say, I have learned from this course (in part from concentrating on the material and in part from your questions here). ...a little more from the seminar that I've had that has accompanied this course—which has given me more feedback than was possible with such a large group. Much of it was in the form of skeptical faces. But I was close enough to really see them and feel them, whereas here I can sort of look away more easily if I see a skeptical face.

And I felt the weight of this. And I learned really that if I ever do a learning program with the computer I think I'll program it to say,

"No," or regularly, "How do you know that?" "That doesn't seem very clear," that sort of thing. Because I do hear this criticism, and I've gone back to the drawing board nearly every week after the seminar. Certainly the way I would present my own views, as I've mentioned before, has evolved in the course of the course. And that may mean that I've changed my views. I'm not entirely clear on that. But I would now give it a slightly different emphasis than I would at the beginning of the course, or than might be in the Paine article, or let's say the Powers.

Powers goes into the detail (based on interviews I take it) of choosing the strategy for World War III—of the evolution of planning for "damage limiting" (for limiting damage in the event of a war), and for preparing counterforce options which could be used either in the event of retaliation to limit damage, or (somewhat more promisingly) with preemption if an attack by the Soviets were expected. And by virtue of its ability to limit damage in a first strike, giving some credibility to the possibility of initiating nuclear war at the tactical nuclear level—first use of nuclear weapons—and escalating if that U.S. first use is reciprocated. I think Powers makes it clear enough (as I've been emphasizing) that the purpose of buying an ability to limit damage to the United States, or to seek advantage in escalating a nuclear exchange, possibly up to the level of a first strike—a strategic, allout strike—is not so much in order to survive in such a war as to deter the Soviets from actions that would provoke such use of these weapons by the United States. And basically, in other words, to support a strategy of threats in support of U.S. interests.

However credible the threats may be at this point, it's believed (and I think with some reason) they would be less credible if the weapons to implement such threats did not exist, and if the U.S. had showed no interest in acquiring weapons of that nature. Especially in a world where the Soviets are so well supplied with nuclear weapons. Threats on the U.S. part to initiate nuclear war, or to raise the level of nuclear war, would seem fairly hollow if they were not accompanied by any effort on the part of the United States to survive such an action. The lack of such an effort would virtually define such a threat as either a total bluff, or as meaningful only when uttered by a clinically insane president of a sort that has not been elected yet in this country.

So in short we simply wouldn't have the basis for much credibility of doing what we have committed to do in our NATO strategy if the United States had made no effort to pursue the opportunities for limiting damage in a nuclear war that are proposed and advocated and offered up by technologists---by industry, by strategists, by strategic analysts in general---who say that if you did this or that you could then, to some extent, reduce the damage to the United States in a nuclear war and hope to survive it. If a president simply ignored such matters on the grounds that it costs too much, that it wouldn't make any difference anyway even if he did buy this, or that it could have no effect on credibility (the other side), his actions (or his inaction in that case) would undoubtedly be speaking very loudly. And what it would be saying was, our threats have become close to total bluffs in this era, whatever they may have been 20 years ago or 10 years ago.

I would still say now, as at the beginning of the course, this consideration I have little doubt is at least one major factor in the minds of presidents who have bought these weapons—ordered these weapons and have gone along with them. But Elizabeth Drew says almost nothing of such a strategic conception. The model that she presents... Let me make one point before I get to that. The Scowcroft Report is a strange document in some ways, in its combination of proposals. And in some of its assertions. And I think newspaper reporting on it focused in particular on the inconsistencies that appeared in the Report, and the ways in which some of its members had changed position, and in the general implausibility of it, and in a few of its striking assertions.

Almost no attention was drawn to the passage that to me was very significant. And that was the passage (well, it was more than one passage—a number of passages) which assert that the purpose of the MX is to deter the Soviets from major conventional assault or the use of limited nuclear weapons—I'm sorry, a limited use of nuclear weapons—in particular a limited strategic use of nuclear weapons.

I believe that nowhere in the Scowcroft Report is their given a rationale for the MX that emphasizes the earlier reason that was presented by Carter and initially by Reagan—namely to deter a Soviet allout nuclear attack on the United States. That is simply not mentioned as a consideration in the case of the Scowcroft Report which was accepted by the President. And it went beyond that.

It actually knocked down the major pillar of that earlier rationale—the earlier rationale being that the Soviets could hope to hit

both our missiles and our bomber force in a first strike and leave us with nothing but our puny, though numerous, gnat pricks of Poseidon warheads (of which we happen to have several thousand at sea). And that by hitting both the bombers and the missiles... As I mentioned last time the Scowcroft Report simply demolishes this argument. All the people in that commission were around during the previous rounds of policy debate. None of them happened to mention during that time that what Carter was saying and what Reagan was saying, especially in his campaign, was essentially nonsense as they knew that it was.

But at this point, having chosen to put the MX in fixed silos, and thus no longer being able to pretend that the MX was designed to survive a Soviet missile attack, and thus to deter it, they then had to come out with what they had undoubtedly seen as the reality all along which was that there was not a serious danger of a Soviet missile attack. The reason that they do give then is entirely in the context of what Herman Kahn called Type II deterrence. The deterrence of other acts—other than a Soviet attack on the United States, or an allout attack—and specifically the deterrence of a major conventional attack, presumably in Europe, or of the limited use of nuclear weapons—a possibility that they really say very little about.

Given the amount of rationalization that goes on, both in the Scowcroft Report and that is brought out by Elizabeth Drew, that is brought out in the MX, one could very well say, "How can we decide which sentence, which paragraph, to conclude they really believe?" And beyond that, "Which should we put credence in?" It might seem rather arbitrary

to do so. I have been giving a fairly clearcut interpretation of what these people believe, based on a generation of their choices and on knowing some of them personally, on working through the plans in general, on what amounts to inside information, then. That's my basis for what it's worth. But I have to admit that obviously I can't prove an assumption that this is the paragraph to be taken seriously.

I can say, though, that the emphasis in the Scowcroft Report on what amounts to Type II deterrence, is unusual in a public document. It's new, and I am asserting that I believe that it does come close to what these strategists think is the reason for the MX—or the need for the MX (so far as there is a reason). In fact, although the case they make against a Soviet preventive attack as being too risky and too uncertain in its effects, is sound; I think the risks of the new Soviet weapons attacking the United States are somewhat larger than the Scowcroft analysis would lead you to believe.

The risks are actually greater. My understanding of why that is suggests also why they didn't emphasize that. Because from the type of argument that I have been giving (last time and the time before) and that I believe, those risks are real even without the MX and greater with the MX. I don't want to recapitulate the whole lecture from last time. I know it was abstract and could probably stand a little paraphrasing, but I don't want to go over the whole argument of it. I'll just repeat the conclusion.

I think in fact there is a significant risk of a Soviet attack on the United States. And that risk can be greater than it is and will be

greater if the MX comes into being. Indeed, I think quite significantly greater. To a point where one could say that it really only becomes a major risk with the existence of the MX. So that their pooh pooing of any problem of Soviet surprise attack is a little misleading—or one could say premature. And that's closely related on the other hand to what I think they do believe—that the MX is not only a counterforce weapon, not only a weapon that could, relatively speaking, limit the damage the Soviets could bring to bear on the United States, but that its purpose is to threaten to do so in the event of a major Soviet conventional attack.

Let me suggest... And I think this will tie together a number of things in the course that I wanted you to understand as you read your newspapers in the future. As you look at arguments for or against the proposition that the Soviets might do X—and very specifically that the Soviets might launch an attack against the United States of a certain form, or launch a major conventional assault in Europe, or use nuclear weapons in a limited way (the three things mentioned in the Scowcroft Report), ask yourself whether the argument of that possibility makes possibly more sense if you bear in mind the distinction I was discussing the last couple of lectures between a preventive attack and a preemptive attack. Also bear in mind the other major theme of this course, the possibility that the U.S. had threatened or had actually carried out threats to initiate nuclear war or to escalate it. Against these questions then, look again at assertions as to the possibility that the Soviets might use particular weapons in a particular way. In a limited

way, in a conventional assault, or in an allout assault. I'll explain what I'm getting at here. Some of this I did last time but I want to sum it up again.

The idea, for example, that the Soviets might hit just at our missiles, reserving major reserve residual forces to deter the United States from using its submarine forces, is an idea (a lot of this I said last time, I know I am repeating deliberately) is an idea that looks at first view quite strange and implausible as a rationale applying to the Soviets, or something we should worry about and by weapons to forestall. If you think of it as an attack out of the blue where the Soviets have the alternative of no nuclear war at all.

Faced with that alternative, no matter how badly things are going in the absence of nuclear war, a nuclear war is not likely to look better. And the idea that the Soviets would initiate such an attack just to avoid losing even something fairly important—losing her position in Poland, losing a limited war in the Middle East—doesn't look very plausible.

But test the proposition against the possibility that they were anticipating a U.S. first strike as their alternative to striking. If that was their alternative I would say the Nitze type attack (the preemptive attack) looks somewhat less crazy for the Soviets. In fact I would argue with the Soviets. I suspect their strategic thinking doesn't run along these lines as a matter of fact. But it would seem to me that it was probably their most promising way of conducting an attack rather than simply expending all their forces on destroying our cities, and with the certainty that they would experience the explosion of all of our forces against them.

The plausibility of that as a preemptive attack I have to say frankly, reflects the fact that when I was given the job, in effect, of saying how should we plan to use our own, U.S. forces, in the event of the imminence of nuclear war (or an actual nuclear war)? This seemed to me the best way to use U.S. forces. And I won't go all through the process that led me to that. But I can say that that idea I found was persuasive in the Pentagon on the whole, starting with Secretary MacNamara and eventually even officers like LeMay and Powers were persuaded by that idea.

I can imagine, then, that Soviets could be persuaded by it. It doesn't bear up unless both sides have some possibility for launching a first strike and limiting damage, at least to some extent. Thus to reiterate one of the points of last time (maybe a little clearer than I made it), I'm saying that major instability in the sense of the possibility that a conflict will erupt into an allout war, or a major strategic war, is, by deliberate decision of one side or the other, really requires the following condition, that both sides have some vulnerability to the forces of the other.

The obverse side of that same proposition is to say each side has some counterforce capability against the other—some offensive ability—to disarm the other at least to some degree. Both sides must have that as I tried to explain last time. And I would go further and say that to make it really significantly unstable at least one side should have a fairly large capability to do that in terms of disarming the other. If both those conditions are met, two sides are vulnerable,

two sides have counterforce capability—those are the same proposition, different ways of saying it. And at least one might see a fairly large advantage in going first. Then both sides are capable of expecting that the other side will in fact deliberately go first. Both.

I won't elaborate further on the logic of that. I did my best last time. It's not easy to do orally. One thing I can see is a stronger sense now that I must spend my time after this course is over and about a month from now writing this stuff down in greater detail. It is hard, I think, to convey orally or probably to understand orally and especially without diagrams. How many people here think though they have a grasp of the basic proposition I just made? How many find themselves still pretty puzzled? You don't have to agree with it. How many do not clearly understand what I'm saying? Well, good, OK, one. See me afterwards, or see some of the other people afterwards.

Well, I won't pursue that then except to say (as I did say last time) that we are not yet in that highly unstable situation. We have the first condition, and that is new. Each side has some counterforce capability against the other. It can take out a fraction of the other side's nuclear forces in a first strike but would face a very large fraction left under any circumstances. That is true at the moment. With the MX—with at least more than 100—with a couple of hundred MX, or with a combination of MX and the Trident II, or with a combination of the MX and an improved accuracy Trident I (the current submarine missile, which is currently not accurate enough to threaten hardened silos on the Soviet side, but which is planned to become so by the middle of this decade

because it is planned to get mid-course guidance from a new global positioning satellite system—a global positioning system which is part of the NavStar satellite system which will go in in the mid to late 80s. That will give even our current submarine missiles a large counterforce capability.

A combination of these various things plus Cruise missiles for follow on—to get reloads if any, to get Russian silos that have been missed on the first wave—the Cruise missiles coming in in a second wave, later. Yes?

Q:

Good question. By the way let me encourage...especially in this...throughout tonight, do ask questions at any part. Could you hear the question? A very good question. I point out that this is... This very problem of communicating with submarines does put a premium if you are going to use the accuracy that we are building in to our current submarine missiles with the NavStar approach and with the later Trident II, which has silo busting accuracy (that's the D-5, sorry, Trident II missile) which will have silo busting accuracy even without NavStar. It puts a great premium on using them while you have your satellites. And while you are in a position to coordinate the submarines, get them into firing position at the right time for coordinated firing. Otherwise that accuracy that you are building for the submarines will have very little to do with it.

Accuracy is not going to be very worthwhile days or weeks after the exchange. Even though the submarines can easily survive. So the accuracy we are buying would offer an advantage only if, basically, the attack was coordinated in the conditions of a first strike. Which is to say not necessarily that you've (I'm talking about a preemptive strike now)... So it doesn't mean you've necessarily planned this weeks or months in advance, let alone years. It may be a very last minute thing. But it does mean you are proposing to give the go order while you still have satellite communication to relay it. And while you have the ELF system which is for the extremely low frequency system which is to get the signal out to submerged submarines.

That is a system, by the way, which is extremely vulnerable to ground bursts. It requires enormous fields of ground antennas—buried antennas. It can be easily disrupted by enemy attack. The satellites which would operate most of the bombers, missiles (and the submarines under some circumstances) of course, can be attacked. The electromagnetic pulse he mentioned could conceivably paralyze most of the system except perhaps for the ground missiles. So if you are going to use the submarines as part of your attack and not rely then on ground land based(?) communications, you want to do it before the other guy has put up a high level—high megaton—blast that may put out the electron magnetic pulse. That puts you out.

These command and control problems tend to favor the strongly preemptive strike as opposed to waiting. In fact they may be the most significant pressure. Not all of you, I think, were here. How many of

you heard me quote the Steinbrunner article last time? How many didn't hear that? That's too bad. I want to refer you to the Steinbrunner article in Scientific American of a couple of months ago. Maybe someone has the date, I don't have it with me. On launch under attack. But he emphasizes the pressure that presidents will come under for simple reason of command and control limitations and vulnerability in the event of a war.

Just like commanders like the Tzar of Russian in 1914 were under enormous pressure to preempt in that war because of the rigidities and the nature—the technological nature—of their mobilization system. In this case the vulnerability of the forces is rather similar to the mobilization problem. Getting people to trains on time—a very complex set of train schedules—could easily be disrupted by an enemy offensive that would get in there and attack the tracks, and attack the road junctions, and the train junctions, and so forth. You simply couldn't carry it on in the environment of an enemy offensive. You had to get that mobilization completed before you were subject to attack.

A very similar technical logic obtains here on the argument that a president will hear if he's never heard it before. He will get a very fast course of on-the-job training. And it may be early in his administration. He may simply not have been around. Or he may never have had time to pay attention to these technicalities. But at the last moment somebody will sit him down again (assuming there is not an attack under way) saying, "Mr. President, soon in the future we could be subject to an attack, even a limited attack, which could destroy our command and

control system. Under those circumstances we could not achieve any objectives even the slightest limitation of damage to this country. Unless we move in this situation with an undamaged communication system we will not be able to control events at all, or achieve any objectives."

And Steinbrunner, an extremely experienced analyst at this point, who has had very high level classified access in various studies in command and control, actually emphasizes that the pressure would be so strong that a president (I'm paraphrasing jst slightly here, those of you who heard me quote this will remember it) will be so strong that a president who shrank from that decision and did not want to follow that advice could well be ignored in effect.

We are talking obviously (that sounds like a kind of military coup) but remember we are talking about pressures the military would be under to fulfill their responsibilities as they saw them to their country in a situation that really no humans have ever been in before. Facing a potential catastrophe—either way, really—but at worst a catastrophe that they might see as much worse than the catastrophe that would accompany their going first. They would feel themselves under pressure to ignore this amateur. That no military men have ever been under, actually, to an extent.

And even democratic officers, and we have democratic officers who believe in democracy on the whole within the limits of their limited experience of democracy reflecting lives spent in an institution that is not a democratic institution at all. They really go very far to defer to the requirements of democracy. The question is whether we could count on

their continuing to do that under this pressure. Some are more democratic than others, or more concerned about that problem than others.

One anecdote might be worth mentioning at this point. I actually had the job (I was part of a task force under Eisenhower in 1960) of devising a command control system at the presidential level—hopefully including the president, at least the president's representative—that could survive an enemy surprise attack. This was during the missile gap period. And the fear that even with a small number of missiles the Soviets could knock out Washington, obviously, and for that matter Omaha where the Strategic Air Command was located.

So our solution at that time (under Secretary of Defense Gates) in a little task force over Christmas (I spent Christmas doing this) was to propose the internetting of existing facilities. There were underground command posts at various places—under mountains. Possibility of airplanes. There was already a SAC plane of this sort that could take off on fast alert. But this system created the idea of a presidential command plane. You've heard of that probably since—the exercises. And a whole set of different command posts that would be tied together in a way that would be hard for the Soviets to disrupt—we thought.

Actually there was not the understanding of electromagnetic pulse at that time. That would have destroyed a lot of it. Also the Soviet missiles were not accurate enough at that time to destroy the underground command posts. So it was a solution that had a little more promise then than it would appear to have now.

The next year, then, under Kennedy, I was part of a task force to update these and carry the proposals further. And I had the job in

particular of going to discuss some of our proposals with General LeMay who by this time was Vice Chief of Staff of the Air Force. You've heard me mention his name in various connections. I was quite interested to meet him. I had never met him. He was an awesome, almost eerie figure for me from my knowledge already of his role in the destruction of Tokyo. And then later in building up the SAC war plan which I had worked on changing.

Indeed, he happens to have been a close friend of my wife's father. And I was asked in 1970 (my wife asked me) if I would mind if he attended our wedding. That was in 1970, nine years later, and I said, "No, I have no objection to that, but I wouldn't be there if he was there." And it was a choice, and so he was tactfully uninvited, or not invited.

But on this occasion this was my chance now to see this famous cigar-smoking General, lion-shooting General, and all the other things I've described. And he said a number of interesting things in the course of that. One was I brought up the subject of the delegation of authority in the event of an outage of communication (which I've mentioned to you in an earlier lecture) which of course was a very super secret subject. And he said he was satisfied with the conditions under which that... That had been delegated to SAC and to various other people in the event of an outage of communication.

But he then went on to volunteer the opinion that that decision should be delegated in any case to the commander of SAC rather than to the president—even if communications were in. At all times. This was rather startling. There was another guy in the room listening to this

from the White House. And that was a rather startling assertion. He said that the president should not be in the chain of this operational decision. And I was surprised to hear him say that openly to a representative of Secretary MacNamara which I was. And he said very frankly, showing his cigar, he said, "Who should make that decision? Some politician who may have been in office for a couple of months? Or a man who has been preparing himself all his life to make that decision?"

And it was clear to him what the answer to that should be. I got actually fairly enraged at that and I... I mean I had a negative set toward this person anyway. And he was in particular saying how it should be delegated to the commander of SAC specifically at all times. Not to the president. I cast about for a kind of argument that might get to him—that he would recognize as a relevant argument—and I said, "What makes you think that you would survive an attack any longer than the president? Whether you are here in the Pentagon or whether you are in Omaha?"

That wasn't entirely the point of the peacetime decision because he was talking in part of a preemptive decision you can assume. But the context of our discussion was a decision under enemy attack. That was the premise. That is the usual premise of these discussions with civilians at any rate. And so why would he think he would survive?

Obviously a system in which you have delegated this authority below the president was not basically involving delegating it only to 4-star generals such as himself. Inevitably, if you were willing to delegate at all, it meant delegating it to people who might survive. And that would

be people flying about in airplanes basically, or submarines. And those aren't 4-star people. Specifically the guy most likely to survive in those days in SAC was a 1-star general (who might not have had that job very long either) who was in a plane at the time the bomb hit Washington and another bomb hit Omaha.

And as I mentioned to you earlier, the effect of such delegation in the Pacific was supposedly only to (in the eyes of Eisenhower and of Kennedy) only to Commander-in-Chief, Pacific. Now to do that, those of you who have read Quemoy... Now, how many people have read the excerpts from Quemoy? Well you realize that you are talking about delegating now to people like Admiral Felt, SINCPAC. He doesn't figure in that study a great deal. But you did read his Commander-in-Chief PACAF, Laurence Kuder, and if you get a flavor for their attitude toward the need to use nuclear weapon—which is exactly that of LeMay—you realize that the delegation is to a person who can be counted on to find an early need to go nuclear in the event of a conflict.

So we are in effect accepting that. But as I found in the Pacific of course, for the same reasons that the president had delegated to them, they had in turn delegated to lower commanders. And this delegation could, in practice, go down very far.

What had sparked that delegation? Precisely the perception that weapons of the period created a command vulnerability. As they would have if the Soviets had had a significant number of those weapons and if they had worked reasonably well. It turned out at the time they didn't. But the delegation reflected our uncertainty as to whether the Soviets

could knock out our command system. Whereupon three presidents (to my knowledge) delegated that. And I would guess the later ones have done so as well.

Come back to the MX. The existence of weapons like the MX and the SS-18, Mod IV (and the new weapons that will follow them if the arms race continues, I am almost certain) in combination with the vulnerability of command will lead at least to a widespread delegation on both sides. And beyond that to the likelihood (as we approach very short warning times) with the submarines that the Soviets will now be putting off our shores, (they claim, and we hear), now that the Pershing and Cruise missiles are moving into Europe, (with those short warning times involved, which will also be a factor with the Trident, which can come in close and deliver a short warning attack), the pressure toward launch on warning and an automated system—at least in a crisis—becomes very serious.

No one... Well, I won't say no one. There are some people that think we can live with launch on warning, just as LeMay was quite comfortable living with the idea of a delegated system to human authority. A lot of people are quite worried about that. Including people who find themselves voting for the MX. Nevertheless they vote for the MX. If I have suggested that the predominant, overriding reason why the MX does get built is an obsessive belief—let's say alone, by the president, that we must have an MX to make these things credible, and I may have given that impression—let me correct it. As a result of the seminar.

I think the Drew article will give you a very good picture of the various, varying, motives that bring different factions and different

individuals into a coalition of forces that manages to support these weapons. Many of the people voting in the end for the MX may believe the strategic rationale for it is nonsense. Many of the people (according to Drew) who wrote the Scowcroft Report believed that everything they said was nonsense. I draw attention to what they said not so much because I think Scowcroft believes it, or Harold Brown believes it, but because I do think some people believe it in the system. And they are playing to those people. And there isn't any other rationale. Even people who have other motives for backing this do feel they have to have some reason. This is the only reason around, and so forth.

But I don't want to leave you with the impression that I think the strategic argument alone—the credibility of threats, the need for a first use, the need for an escalation threat—is so great by itself as to cause everyone in the system who goes along with this to support such weapons in spite of their risks. In many cases, of course, they aren't too conscious of the risks. They haven't analyzed it—thought it through. I doubt that the MX (all things considered) would have been invented or bought simply on the specifications of strategic planners at Rand, or in the Joint Staff (who had to have such a hard target kill capability for threats) if it were not for an aerospace industry that needed follow-on orders, and production lines, and R & D money after the closing of Minuteman 3 deployment.

If it were not for the existence of an air force in constant fear that it will lose way to the navy or to the army in the budget fight. And a need to protect its own role even when that role has come to be the

land-bound role of guarding land-based missiles. Something that air force men tended to disdain and avoid twenty years ago but which has become the mainstay of the U.S. Air Force.

If it weren't for what I've called institutional pressures I doubt if the MX with its enormous cost and its rather evident risks, would have been bought.

CHANGE TAPE SIDES

All I am adding to, let's say something like the Elizabeth Drew account, is a sense that there is a strategic rationale which she gives very little attention to which some people do believe—at least that gives a kind of coherence to programs. I suspect that this comes close to being another necessary element. If you can't give a rationale at all you do have a problem selling these highly expensive systems—especially when they do have clear risky aspects and when they do fuel the arms race.

The rationale is also an important part of it. And that's the part we have concentrated on in this course. Perhaps over concentrated but that reflects the fact that I feel it's been left out of most other analyses. So I think the strategic is part of it. For whatever reasons the weapons have been constructed, designed, and bought, which include...

Let me mention some of the ones mentioned in the Drew article which include keeping the aerospace industry in business basically. Which include for other people or a particular firm in that selling a particular weapon. Which include liberals in Congress—doves, in

effect—who hope by this bargain to get an arms control agreement out of the president. This seems to apply to some of the liberal democrats who voted for it. Or in the case of the Carter Administration—precisely the opposite. A president—relatively liberal president—who used the MX to get a Salk 2 Treaty out of a Congress.

In other words in both cases, the MX was being used as a bargaining chip between Congress and the White House—not between the U.S. and the Soviet Union. Carter saying to the conservatives in Congress, "I will give you an MX (which I don't believe in, privately), I will give you the MX for your vote on Salk 2." Which he didn't get in the end. But that seems to have been a major motive for him. And likewise the doves—the liberals like Aspin, Dixon Gore in Congress—Democrats who brought their fellow Democrats aboard, telling these other Democrats, "If we give with our funding money which we alone control (the Congress), to the President, maybe he will give us some better arms control deal to present to the Soviets and we'll move on with arms control. OK.

Two comparable but opposed motivations that have nothing to do with confronting the Soviets one way or another. We give a Pershing for various alliance reasons. Something that I was very struck by in just rereading the Drew article was the following argument that goes through it that bears a lot on the rest of what I want to say tonight, politically. Again and again, the argument was actually used—by the Scowcroft people among themselves, and by the people in Congress. We should build this weapon now that we've gotten this far, "To show that the U.S. has the will to carry out a strategic decision." A decision by

the president to have an MX which "the Soviets don't want." To show "the Soviets" that we have the will—that we can make a decision, that we can carry this out, that we are not paralyzed, etc., etc.

I suggest to you the "we" needs a little analyzing there. The mention of the Soviets is largely a blind. I say this because of my knowledge of some other patterns where it was clear enough. The exactly related thing was the need to put Pershings and Cruise missiles in Europe to show "the Soviets that NATO can make a decision and carry it out." The NATO countries.

What was the obstacle to carrying it out in the European case? The same as in the American case for the MX. A public that was unhappy about spending 20 to 100 billion dollars for a weapon for which no convincing, positive rationale could be given, or was given; which seemed risky—useless, and risky—and a possible lightning rod for attack.

The same argument for the MX has affected the publics in Europe—that the Pershings would be nothing other than a lightning rod for attack. Remember that the publics were not told clearly what the rationale (good or bad) but the rationale, such as it was, actually was for these weapons. Namely that their vulnerability was not a terrible disadvantage because it was not their function to deter or resist—retaliate to an attack on themselves. The public could not be told, "Don't worry about the vulnerability of an MX in a fixed silo, if it works as supposed to—if it does the job it is designed to do—it will not be in its silo when the Soviet missiles (if any) arrive." It will have left some time earlier to attack those very Soviet missiles. The same thing essentially

is true of the Pershing. Don't worry about the vulnerability of it. I've even suggested the vulnerability could be an addition to the credibility that it will go first. The public was not told that. The public had this problem. They were told only that the purpose of these weapons was to deter nuclear attack. This weapon was obviously not designed to do that—could not do that. The public didn't want to spend a 100 billion dollars.

The problem, then, that was being posed for the members of the Scowcroft Commission was: Can we make this decision stick against public will? The will to be demonstrated was not the will of a unified nation. You didn't have a unified nation. It was not the will of a unified alliance. The alliance was split. Horizontally. Every single member of NATO's government was split from its own public. In Germany a majority of every party (including the Christian Democrats in power, as well as the Social Democrats in the green, and the liberals) opposed the decision. When Cole and others said, "We must demonstrate that we have the will," the we here meant we, the government, have the will to carry this out against the wishes of our people.

Now, to be sure, they weren't thinking of themselves as autocrats, let's say, in doing that. It's our responsibility to do what is best for our people. We are a democracy, yes, but also we have our responsibilities, we have to use our best judgment, etc., etc. But in this case their best judgment was pitted against the best judgment of the public. At least insofar as the public had been informed. Now it's also easy for them to say, "We can afford to ignore the public opinion. After

all, they don't know the purpose of these weapons. We know. They've been misled. So how can we take their opinion seriously?"

But there was a reason they didn't know. They had been told otherwise. They had been prevented from knowing. But again, why was that? To conceal this information from the Russians? Hardly. It was essential that the Russians know the purpose of those missiles—that they threatened Soviet missiles. And they are made well aware of that. Much more than our public is.

The reason was that our leaders, our officials in all of these NATO countries, have always feared that the public does not share their perspective on the need for these weapons in any respect—but specifically their strategic perspective such as it is. The rationale that they do accept, that their lawyer types, their public relations types, their advertising men types, their salesmen, (such as I was in effect, as I would now say, 20 years ago... I didn't think of it that way at the time) have served up to them. The understanding. They buy it to a considerable degree. They may not in their hearts believe that it's worth 100 billion dollars, or it's absolutely necessary, but if you're buying the weapons at all this is what they're for. I think they do agree on that.

And they believe they do have an answer in their hearts to that question. But one they dare not share with the public. Which pits them then against their public in this situation. The will that they feel they have to demonstrate is a will to the Soviets that they can carry out this action, despite the beliefs of their public that nuclear weapons

should have no other use than deterring nuclear attack. OK. By the way there was a question that I didn't get to. Do you want to still have it? Yes?

Q:

Yes. Does the Soviet Union have a missile like the MX? The Soviet Union has a missile right now that is quite comparable to the MX. It is the so-called SS-18 Mod 4. There are four versions of the SS-18. One, for example, has a very large warhead. It's not very accurate but it has an enormous warhead. I forget. It's ten, possibly even 20 megatons. So it would have a very high kill probability even with its low accuracy. The SS-18 Mod 4 is said to have an accuracy roughly on the order of about I think 240 yards. Very comparable (maybe 300 yards) comparable to the Minuteman 3, but with somewhat larger warheads. So on the whole it has a kill capability that is fairly comparable to... It's actually very close to the Minuteman 3, so it's somewhat less than the MX. But it's on the same order, in the same ball park there.

They are developing experimental so-called SS-24 X, experimental. Which will be more accurate than the SS-18 Mod 4. The MX is meant to be twice as accurate as the Minuteman 3. Which is to say twice as accurate, roughly, as the SS-18 Mod 4. And so it will be more accurate. It will be the most accurate. But it's a small difference. The later weapons, Soviet weapons, should be significantly still more accurate. As the new weapons appear...

There was a chart I wanted to project tonight but the equipment wasn't available. Howard Moreland has done a chart, actually, for the coalition for new foreign and military policy, showing the kill probability for all the different weapons in the inventory. And roughly looking here at... This is a kill probability. What's called single shot kill probability. Meaning the calculated probability (including reliability—ah no, aside from reliability) that a given missile will land a warhead within lethal radius of a hardened target on the other side. And way down here, with essentially no kill probability, you have Poseidon warheads and a number of Russian warheads.

The first missile that really gets over a 50% mark. The first to come in on either side, is your Minuteman 3 (advanced) with the Mark 12A warhead and the NS-20 guidance system that I've described before. Advanced... A little after that—well actually four years after that was deployed if you put the Soviet systems over here—you get a Soviet system that's perhaps a little higher than that. That's the SS18 Mod 4. Then the MX would be up here, I think. I have the chart over there, but my memory is that the MX gets up definitely into the 70 or 80 percent mark. And Trident I, by the way, is down here, sort of. But with the new system—global system—the Trident I would go way up here.

Well, the interesting thing is that he distinguishes between weapons that now exist and weapons which are coming into existence, and in his chart essentially all the new weapons and a lot of them on both sides have close to 100% accuracy, ignoring the realibility of the weapon getting off. Which would still cause you to want to schedule two

warheads from different vehicles per target to insure that one of them would get over there. But this says that if it gets off, it's on its way basically, it will land close enough to destroy this thing. Well, this is true of the Pershing II; it's true of the cruise missile, the MX...—I'm sorry, the later MX, which the first MX will be by down here, but a later, more advanced MX will be up there—the Trident II, the D5. And on the Russian system—virtually all the Russian systems—and a lot of all of these, tremendous numbers of them.

This reflects in particular a mere advance of technology. As of now, as the arms race continues, it's getting hard to build a weapon that does not have hard silo capability. To put it another way, you couldn't do it in a convincing way; you couldn't say very convincingly: this thing doesn't have the accuracy to hit a hard silo because it would be very hard to verify. It depends largely on programming. You'd have to sort of obviously put in a very obsolete guidance system. New guidance systems are now in a position to deliver that accuracy for even weapons with very small warheads. And that's true on both sides.

So as the arms race continues, the land-based forces on each side and the command control systems on each side become close to totally vulnerable. The chart is very dramatic on this point because, as I say, it shows us here now in a situation right about here, which is bad but still leaves the other side with a lot of forces. But the future forces in enormous numbers are all up here. And that's what lies ahead only 5 or 6 years away. Yes?

(Can I get some water?)

Q:

Well, the parity that will exist... There is a parity now, in a way, as I say, like this, comparable numbers of warheads, about the same number of warheads, and about comparable kill capability. At this level, too, 5 years from now there will be a kind of parity. But not to argue it too much. And I hope I've made myself clearer to others than I have to you, it appears. But I'll just repeat this point.

The parity will be a parity of ability—of a high ability—to destroy the other's land-based forces. In the case of the Soviets, that will not make much difference. Right now they have enough numbers, even with a moderate kill capability, to destroy our land-based forces. If not now, within a year or two as they finish installing some of these things.

But our forces are only 25% of our overall warheads. They can't get our submarines and have no prospect of doing that. So as they add weapons up here, it makes very little difference in their calculated ability to disarm us. This is very different on this side, because right now with the numbers that we have of these and their moderate kill capability, we would leave a large fraction of the Soviet land-based forces remaining after our best preemptive attack. But as we get larger numbers of more accurate missiles, including the ones I described before, we will be able to get all of their land-based missiles, which are 75% of their forces. Even that would leave them with a very large capability were it not for the fact (which puts this into question) that we also have a very large antisubmarine warfare capability, which they don't have and will not have.

That gives us at least a paper—a calculated capability—to target everything. We should not—the most optimistic person should not—expect things to work well enough that we would in fact get everything. But there is a difference between feeling that at least we can attempt in a preemptive. Again, go back to my earlier point—the uncertainties of this do not encourage a U.S. preventive war strike. Nor will the Soviets think that it does.

But now I want to bring this to bear on the major point. That does make a difference in the encouragement of a preemptive strike if we think the Soviets might be about to use theirs. And one reason why we might think they are about to use theirs is the evident possibility that they might fear that we would use ours. That's why you need the vulnerability on both sides to get this interaction—this dangerous interaction of expectations. This would be a situation now where one side—it happens to be us—would have what might look like an advantage; would have an ability to launch a perhaps 100 percent strike against the other side.

I don't say that puts them in greater danger than it puts us, because it gives the Soviets a plausible reason to put it to us: if you press too hard, if you make the world look too dangerous to us, we may have to hit what we can hit. Why? Because we would have strong reason to believe that with your shiny chromium-plated capability to hit all our forces, you might just decide to do it very shortly. Therefore, not only might we have to do this, but you better believe our threat that we might have to do it. Both sides, in short, have the threat in this case. I don't call that a stable situation, in answer to your question. But now,

let me add one... Go ahead. Yes?

Q:

Two reasons: The first is that the uncertainties in this case, the operational uncertainties, would be enormous. Not only have we never (has no one ever) exercised such a strike—an attempt to get off all these missiles in a highly coordinated way—even on the ground, let alone in the submarines and everything. It's never been practiced. And never really can be practiced—especially given the atmospheric test ban. You can't even practice setting off missiles to explode (you know, with warheads in them) to explode at the other end.

Such tests as have been carried out do not suggest that it will be carried out in a highly competent manner the first time it's done by either side. Just consider what happens on space shots. Granted, they set a higher standard for reliability in the space shot—especially if there are people in the shuttle. They hold it off till they are quite sure the thing will work. But also they hold it off because something simply goes wrong. They don't know what it was. They're delayed, you remember, hour by hour, on nearly every space shot. Same technology here, and that's by highly trained crews. What if you had, then, ordinary operational crews, all told. You know, at zero hour here, D-day, click, push the button, and we all go together. How many will actually go at that time? The space program does give you a sense of how many will be, and it might not be very many at that particular time.

That means that enemy weapons that were targeted for your weapons will remain unhit for some very long period, probably, after the "balloon has gone up," as they say. Now, a large fraction of those weapons will not be able to get off the ground, either, right away. But, they might have quite a long time to do it. And some weapons would have hit them. So the war is on—a kind of broken-backed war then could continue. The notion, for instance, that the war will in fact be a matter of an hour—30 minutes for our missiles or their missiles to fly one way; 30 minutes for the others to fly the other way—is certainly not the way it's going to be. Certainly.

That implies absolute perfection of scheduling, you know. And like Branniff just getting into business again, not everything is going to go right. Which just means certainly this thing is going to be prolonged for hours or days, or in a sense weeks, even if you tried to make it an exact strike. That is one of the things that attracts people to think that it is possible to limit damage: Aha! They won't be able to get all their retaliatory missiles or their first strike missiles off. Even if we struck second we, perhaps if we have good counter-force missiles, could get in there, you know, and hit a lot of their missiles that hadn't managed to get off yet.

The reload thing is on the whole a myth, or a hoax. It's totally blown out of proportion. But the idea that there will be missiles over there after some hours after the war has started that haven't yet managed to launch, is certain to be the case. And if you have enough warheads with your cruise missiles or whatever to get over there and target the

whole thing, again, in a second wave or retaliatory wave, you will get some of those missiles. Right? I've forgotten your question. Did I answer it? OK. Good. Good.

Now, to get to the heart, though of... I'll take the second half of this to go on to program, you know. What can be done? What are the chances of it? And how do you achieve it in the situation? But finally, to define the other part, I think, of the problem (that makes the situation as urgent as I think it is right now), we have to address the question: could the circumstances in which preemption is tempting for one side or the other come about?

For the same reasons that I would say preventive war out of the blue looks—that was your question, right?—simply too uncertain, too likely to end catastrophically compared to any outcome other than being struck first. In any other previous wartime situation this is, going first in this is likely to look worse than that, if you are at all realistic; and they are that realistic. It's also true that the circumstances for preemptive attack would be rather narrow in this world.

We're really asking: What does it take to get a president or a secretary general of the Communist party, let's say—prime minister, whoever does it over there. We're not quite clear, by the way, of the nuclear command control system to the extent that there is one man in charge, it's assumed that he's in charge over there. To the extent there's any uncertainty about that, we know very little about who controls buttons over there. But under what circumstances would he deliberately press a button? That's not the only question of interest.

We're also asking under what circumstances might he delegate it to some lower commander who might be much more prone to press the button?

I would think it would take at least a small tactical nuclear war going on. That's an empirical judgment. But I'll concede that in effect to those people who think that a deliberate decision to launch a nuclear attack is very unlikely. To get either side to launch an MX missile, I believe, would take circumstances that have never yet occurred. And that is probably a nuclear war going on already. Probably a 2-sided nuclear war. One could imagine that the very use of nuclear weapons by one side might trigger an all-out attack by the other. I could conceive of circumstances in which that could happen, but I'm now looking at within this narrow range the more likely. And I would think it's overwhelmingly likely that one side would not launch a strategic attack with these weapons simply because the other side had used some small nuclear weapons—especially outside Europe.

I think it would take two things, probably: the prospect of losing a major tactical nuclear war—of having an area of importance to you devastated in that nuclear war—and basically of losing it as the alternative to launching a disarming attack. How would a nuclear war—a tactical nuclear war, occur? Again, I think history suggests that if we're talking about the U.S. and Soviet Union and not about some smaller powers, that it would take quite a bit to get a president, let's say, to start a nuclear war. But not as much as most Americans imagine. Including most highly informed Americans who are ignorant either (or both) of our past war planning, or the crisis decision-making which has

been described in the reading for this course and in some of the lectures. Material like the Quemoy crisis, like the description (this is in the recommended reading) of Nixon's threat during 1969, the references to Eisenhower's threats, and so forth. Most highly informed experts are ignorant of one, or generally both, that body of material.

A man, I put this to Herb York, and he hasn't disagreed... A man with the almost, well, with the unparalleled experience and access of Herb York in many fields—of the arms budget, of the design of nuclear weapons, of negotiating—did not disagree on the point that he has had very little contact directly with war plans. And he asked me to send him the material on Quemoy—was quite ignorant of that (although he was a high official during that period). That's why I've emphasized the secrecy. In part to say that it helps to understand some of the analyses to realize that almost nobody has been made aware of this highly secret information—about our willingness to plan and prepare for first use and for strike, and the occasions when presidents really took that quite seriously.

In thinking over my conversation with York of a couple of weeks ago that I had (and it was similar to ones I've had with him in the past) I realized that his opinion—like that of a number of other people—and he's not here to defend himself, so let me just describe the point of view that I think is true of him, but pretty sure is true of some others at any rate—is that whatever reality there may be (as I argued to him) in threatening of these weapons, or in preparing to make these threats—to make threats credible—this is almost entirely detached from

the likelihood that the weapons would actually be used. One thing I'm sure I would represent him correctly on in saying that he simply cannot imagine a president of this sort (of any that we have elected from Truman to Reagan) deliberately under any circumstances initiating the use of nuclear weapons, and in particular against people other than the Soviets.

Herman Kahn had much less access than York, but still a lot of access, says in his book: one thing is unthinkable, that a US president would consider initiating first use, or even threatening first use against an enemy that did not have nuclear weapons. Well, you will understand at this point of the course why that leads me to discount their judgment a little bit---that there's no problem of stability. They are simply ignorant (as they are meant to be and as nearly all Americans are) of the data that indicates quite serious consideration by a set of presidents, mostly against enemies that did not have nuclear weapons.

If the situation is genuinely unstable, as I believe it is now and is becoming more so, the argument pivots on the possibility that a small tactical nuclear war under conditions of the present world could get started. Because that's the detonator---that is the fire which is necessary---that generates the heat that could start the nuclear powder burning. A metaphor there, but if you think of the way actually explosives actually work; typically they take an entire sequence of explosives of different properties---a match to start, say, a train of black powder in some cases, which in turn sets off detonating cord which in turns sets off a blasting cap which in turn sets off a plastic explosive, let's say, which in turn (in the atom case, atomic case) is

needed along with other things to set off the fission material in an atom bomb which in turn provides the heat and radiation to set off the thermonuclear material. That entire sequence of 8 or 10 different kinds of fires is needed to create a pressure and an intensity—a heat—that will set off the eventual explosive. And of course even the thermonuclear material is then used largely to ignite otherwise inert U_{238} as a primer for a third-stage fission reaction.

If you keep that metaphor in mind, I think it applies to the process of human conflict that would lead to a nuclear war. Without conflict actually moving, I don't think you get the heat to generate the pressure on decision makers to avoid defeat. Which is necessary but, (here's the bigger surprise) apparently sufficient to cause presidents to ignite in effect, to ignite the willingness of a president to use a small nuclear weapon to protect marines at the Chosin reservoir, French at Dien Bien Phu, marines at Kaysahn, Chinese Nationalists on Quemoy, American troops in Germany, perhaps Israeli troops being chased to defeat in the early part of 73, and then to get Russians apparently to think of avoiding the defeat of the Egyptian Third Army in 1973.

These are cases... I would say Herb York and many others like him are ignorant of everyone of those cases essentially, which tell me as I read the data, those presidents weren't kidding. They weren't all saying: we will use nuclear weapons. As Beckman points out in 73 (and it's just as true of most of the later threats since the 50s) all they were saying was: we are consciously raising the ante here with a conscious recognition that the next—the second or third stage away from

now—may lead us to use nuclear weapons. And we are preparing for that. But I think they were serious about that raising the risks. A judgment, then, that the system is extremely stable tends to make, I find, by people who cannot conceive (as I can conceive) that presidents would ever press a nuclear button. And I find such people typically ignorant of the data that presidents have seriously considered pressing a nuclear button if necessary to avoid an immediate tactical defeat—just that. The reason for the Hiroshima material is to dispel the impression I am sure you have grown up with (the only one that Americans ever heard) that what it took to get Harry Truman to press the only nuclear button that has ever been pressed, was the prospect of otherwise losing a million casualties.

That is false. That is not what it took. Harry Truman was not tested on that. He had various motives for pressing that button, but they did not include (by late July, 1945—they had earlier) but by late July, 1945, by August 6, 1945, I learned from Al Perwitz and from Martin Sherwin's work and others, his motives did not include the motive to avoid a million American casualties. There were a lot of other things other than that. And, indeed, they had a lot of bearing on many of the later motives of the threats, including to end a war without having to share the negotiating the process with the Soviets. Almost exactly the same as that attributed by Bleckman to Nixon, Kissinger and Schlessinger in 1973 where they say the risk of nuclear war was increased in order essentially to avert a Soviet role on the ground in the Mideast which would give them a role in Mideast negotiations.

If that is right, at any rate what they are alleging is the same motive that does come out from the documents and interviews of the 1945 period. You can think of that as a good enough motive or a bad enough motive, but it is not what the American people thought. It is almost certainly less. It's a more common kind of motive than avoiding a million casualties. Nothing like that latter has come up in the last thirty-five years. But keeping the Soviets out of a regional negotiation comes up every other year, and we are facing it right now.

If Presidents would risk nuclear war for that, then the risk is greater than you would otherwise think. Likewise troops of our own or our allies do not get surrounded every year. They get surrounded about every third year. Again, if that's all it takes to get a little nuclear war started, it is more likely than people imagine. Again, I've said though, the use of that nuclear weapon by the U. S. is probably not enough to get the Soviets to use the SS-18 or anything like that.

The question is: can we count (even with the MX) that the Soviets (who have armed themselves as much as they have armed themselves) will back down as they have in all of these other crisis. One can learn from the lesson of those years that there is a good deal of degree of stability. That the Soviets are not wild risk takers, for sure. They have not pressed their luck to the limit, even short of a nuclear war.

On the other hand, they have spent a lot of money with the explicit intention of not having to back down as in the past. Can we count on their facing the reality that that money was worthless and will not in fact improve their circumstances (whether they use it or they don't use

it)—that it was worth nothing? Is that the conclusion we can count on their bureaucrats and their officials who have spent that money to make? Can we assume that they will conclude that it is no more safe to retaliate to a U. S. first use this year than it was twenty years ago when we had nothing?

I don't count on that. I don't count on their being that different from our own officials. That is the assumption really that I am making. And that means that our making such threats has less likelihood of succeeding—in getting them to back down—than in the past. Which isn't to say, it has no likelihood. In my opinion (unlike some people) the Scowcroft Committee is right to the extent that they do say that the direction of effect is what they say—that the MX makes it somewhat more likely that the Soviets will back down at that lower level, lest an escalation occur. But I don't think the MX makes it anything like certain. Is the decreased probability which the MX gives us, that the Soviets will stand up to us... Is the increased probability let's say that they will back down (which is a good from the point of view of the White House) does that compensate for the increased probability which the MX gives, that if they don't back down and a two-sided nuclear exchange does occur at the lower level, that the thing will blow up?

These are two opposed possibilities. In my mind the answer is you know that it doesn't remotely compensate for that. And thus, the course we are on is an extremely dangerous one. Let me take the two questions. I'll make one last comment, then we'll take a break, then I will get to program. Can I hear the question?

Q:

The question is what would the risk be of a third world country providing that spark? I think that is a significant risk. It is a risk that really everyone acknowledges. If I am differing in my analysis, it is only by saying it is not the only risk. And if a third world country were to do such a thing, it would be doing nothing more than imitating the kinds of threats or uses the super powers have contemplated for the last twenty years. So I think it is a real possibility in addition to the possibilities that the U. S.... I think that risk is growing for two reasons, because if the arms race continues, a major cost of it (which I haven't mentioned much in this course—I focused on the super powers) is the likelihood that the smaller powers that have the capability to have these weapons (and they are growing—a very large number ultimately) will decide that the arms race is here. It is going on. It is not going to stop. It is not going to be reversed by the super powers. They might as well get the kinds of benefits the super powers get out of nuclear weapons, since they will not be keeping the arms race going. The super powers are doing that.

The capability is already present for a third world power to use such a weapon. Israelis could do it. The South Africans evidently could do it. They are less likely to be pressed in the short run to do such a thing, but they could sell it to somebody else. They could sell a nuclear weapon and might come to do that. Within years the Iranians or Iraqis, or both, along with the Pakistanis, could have nuclear weapons,

and the war could still be going on. There is no immediate reason to think that that war will end in the next three years than in the last three years as a matter of fact. By which time we have already admitted that the side which we are tilting towards—the Iraqis—have in fact used, it seems poisoned gas, in this, what reason do we have to believe that they will refrain from using a nuclear weapon when they get it. We focused even more, of course, on the possibility that the Ayatollah would do the same.

So one then major instability (that I haven't focused on as much but which definitely, I am glad you brought up) of continuing the arms race, is that I believe it gives up any real chance—if there is a chance—any real chance to end proliferation, and to get that under control. And that the risks of that proliferation are measured not by the increased craziness of the people who will get those weapons so much as by the fact that there are more of them than now possess the weapons, and everyone of them is capable of being as reckless as our own past Presidents have been. And that's very risky. So the risk is growing. There was another question?

Q:

You were asking what? Let's take a break.

BREAK AND CHANGE TAPE

The reason, of course, for doing the true/false type thing in the multiple is only to make it possible to grade. And this TA offered to do grading on the essay as a matter of interest. So fine.

Q:

Yes, would you put, you don't have to put the numbers here to show on the graph. Make the graph that will show where the things fit. You know, just put a line that shows that it is at the ninety percent level and so forth, what is involved, on the two sides. You can put it over there.

The whole chart?

As much as you can get on. Yeah.

TA: To answer another question that has been of concern for many people, the 40 point objective final is not a cumulative final. It will be based on the last two weeks only. However, the essay will be very comprehensive. I can promise that.

Q:

OK. I've asked him (I hope this won't be too distracting while I am speaking) but to put on some of the indications from a chart, Howard

Morlin's chart, of where these missiles stand. Partly to correct one thing I said. The MX is up at this level, it is not down here. That's I think the only mistake I made. But it will be interesting, I think, for you to see. Try not to pay too much attention to that until he has got it finished. Alright, Larry also did ask that I try briefly to comment on all the readings, which I haven't done. I will see what I can do here.

Q:

You want to bet? Well, we'll see here. All right. Gar Alperwitz's essay—14 years old, but I think not out of date really. Written in the heat of the Vietnam War by a former Cold War Liberal (such as myself) who, like a lot of people (like Bruce Russett and like Jerry Sanders and others in the heat of Vietnam) found themselves looking again at the assumptions that they had grown up with about the bases for U. S. foreign policy. And, facing the question: is it possible that Vietnam itself is not an isolated example but offers us lessons for our foreign policy as a whole, if there are relations? I can say that it was possible to go through the Vietnam War, as I did, and even through the resistance to Vietnam, with the belief that Vietnam did represent an extremely unusual episode for the United States. Which we had somehow blundered into but which did not tell us much about the character of U. S. policy as a whole. I wanted to believe—how does this bear on the course? It bears on the question as to how that first part of the detonating sequence, (which is an explosive man's term, by the way) the detonating sequence

gets started. How do we get troops? Under what circumstances does a president get troops involved in a foreign country somehow? Since as I have described, that is probably the first necessary step on this chain to the explosion of nuclear weapons and of all out nuclear war. Is it, as I supposed (when I joined the Marines during the Korean War) is it simply to uphold the principle that borders shall not be crossed by military forces? That the United States will be the world's policeman, at least in opposing aggression—the simple crossing of borders?

I must say I felt Harry Truman led the United States well in those terms in Korea. I accepted the notion of that that is basically what we stood for and what we were doing, and why Marines were then going. That's why I joined the Marines in 1954 (rather late in the Korean War, having been deferred for a couple of years earlier) and retained that belief, and I could say that I felt proud of the United States. And with my understanding of what we were doing in the Middle East crisis in 1956 (where again I thought we were opposing not only the... well we were opposing in particular, our closet allies, the British and France and the Israelis) for what seemed (and was) clear cut aggression at that time in terms of what the Israelis saw as a preventive attack—essentially with the excuse of Nasser's nationalization of the Suez Canal.

Yes, I wanted to be brief here, but the subject is, this is the subject of this lecture, in principle, so I thought I should say a little more. Okay, I'll leave that behind for a minute on the basis of this prompting, maybe get back to that.

Randy Forceburg, "Bilateral Nuclear Weapons Freeze." You are not going to be tested on. And although it could sound different to you, you

are not being told in my mind what to believe or what is right for this country to do in the way of program. I have indicated already (and will indicate more precisely in this hour) what I am doing as one American to try to change these risks. And what I think. And what moves me—what I think is a worthy program for the United States. I would be disappointed in this class if I thought you heard that passively as "the word," basically, or if you imagined that I thought that you should believe it because I am telling you.

I have emphasized my own background as much as I have in the way of expertise, not to make the point that you should believe what I am telling you, but that it is worth listening seriously to what I am saying and take it as a hypothesis. It is worth... I think I am one of those many Americans who have thought about this problem and learned about it and worked on it long enough that what I think is dangerous deserves to be looked at, so that you can form your own opinion as to whether it is dangerous. And what I think might be worth doing as a worthy, or what I think might explain the way things are going, I think deserves to be taken seriously as a hypothesis, basically. That is my own attitude, and that is the attitude I would hope you would have.

Having said that, I believe that Randall Forceburg had made an amazing social, political invention when she proposed the bilateral nuclear weapons freeze as a vehicle for a major movement in this country back in 1980 (or actually late in 1979) and set out to build such a movement. And when she proposes it for a serious negotiating approach for the ending of the nuclear arms race. It differs from proposals (from

all other proposals essentially) that have a bilateral nature, in that it proposes to stop the nuclear arms race. I had the experience at the seminar last week, but not for the first time, of making that simple point. The bilateral freeze proposes to stop the nuclear arms race and evoked from one experienced member of the seminar, a professor, the question, very spontaneous question, "What does that mean? What do you mean stop the arms race? Expand on that. What do you mean by that?"

I think that is difficult to hear and difficult to understand by a lot of members of the Arms Control Community who are used to arrangements like Salt II which provide for the possibility of every single weapon on this list (the ones that have been built, but the ones that are to be built, can be built and are acceptable under Salt II). Salt II would not prevent a single one of these weapons from coming into existence. The build down would not prevent (which is the idea of knocking off two warheads for every warhead that you build—new warhead that you build—you have to get rid of two other warheads) would not prevent any of these weapons. The build down, like Salt II, is a way of continuing the arms race.

Every proposal made by President Reagan, like every proposal made by Carter, like every proposal made by every president so far of the United States, is a proposal for managing an arms race, channeling an arms race, talking about negotiating about an arms race, but in no case proposes to end the arms race. And if you, like my questioner, have difficulty in imagining what those words can mean, it means no new weapons on either side. That's what it means.

That emotion that evokes in people from the Pentagon is "No new weapons, no new weapons, no new weapons?" Some of them (not my questioner, not people from the Pentagon) might say, Lockheed goes out of business or builds only Tristars or what? What are you saying exactly? Very hard to imagine. The Air Force would have its reaction and so forth. It means no new weapons at all on either side. That is the proposal that was made. And Randy Forceburg made it at a time... The reason it was such a brilliant invention, I think, was twofold. From an arms control point of view it was a proposal whose time had come because the nature of the parity that both sides had achieved (and the parity of new weapons that were about to come on both sides, but hadn't yet, we were not yet committed to) suddenly made this look---made enormous sense to both sides---and without that you don't have mutual behavior. You don't have an agreement.

The condition for an agreement, I believe, is present with the freeze. It is in the interests of both sides strongly as I (and lots of other experts in this particular context, I am insisting on my background as an expert)... I'll simply say you do not have to be ignorant of the intelligence estimates, you do not have to be ignorant of the process of systems analysis) to perceive that the freeze is an excellent and timely arms control proposal which does (if it works) which can work, can be agreed to by both sides. And which, if agreed to, does what no other proposal does---stops all these new weapons.

And I'll just mention by the way Randy Forceburg, I think I have to refer to, from what language I am speaking here... I was recognized at

the time (not only by myself) I was recognized as a very good weapons analyst. Nobody was better, as a matter of fact. There were others---plenty of others---at that high level of abstract analysis and so forth, but I was as good as anybody. I recognize Randy Forceburg as being of that caliber. There aren't that many, for what it is worth. She is an extremely good weapons analyst, and the notion that because she is a woman or because she wasn't part of the Pentagon establishment or something, that she has just produced a good organizing slogan is absurdly far from the reality. There is no better analyst of these matters in the Pentagon than Randall Forceburg, as a matter of fact. So again, her opinion deserves to be taken very, very seriously, and I recommend her article to her.

Robert McNamara again deserved his reputation as an analyst of these matters in his level, as Secretary of Defense. He reveals in the article here that he always believed that on the one hand, the weapons had no military utility other than the deterrence of nuclear attack. In his opinion---that he has really always felt that. He spends no time explaining (as perhaps Elizabeth Drew might set out to explain) how it came to pass that as Secretary of Defense, he is the man who sent most of the nuclear weapons to Europe which he now proposes to remove; or who went for this enormous Minute Man program; or who backed the MERV testing at a time when it could have been stopped. I think though the reasons are not that he believed---contrary to what he now says---that he believed that these weapons were necessary.

I believe that McNamara is a perfect example of the man who pushes the thing forward as Secretary of Defense in that role (when he was

Secretary of Defense) for reasons other than believing that this is a good thing for the United States. Believing that it is worse than might otherwise happen, if he made a different deal. Believing that he has to give a MERV in order to get the process of arms control started in the late 60's; that he has to give the aerospace industry a Minute Man, if he is to deny them a B-70; that he must do various things for the Navy if he is to deny them a nuclear carrier, etc., etc. In other words a coalition including McNamara was a coalition who included a man who felt he had to make deals of this sort to avoid worse, basically. But the process moved ahead.

Also, the interest of this article now, is that he spells out quite well the importance, I think, of the no-first use. Actually he emphasizes something a bit more—the feasibility of a no-first use policy in Europe. Another very good analysis of that (in large part by a man who was a very close military associate of mine in the Pentagon, Admiral John Lee) is in the current issue of Scientific American. I can recommend that to you. It is a bit more detailed than McNamara's analysis, but along the same lines.

This refers to something I will get back to later. McNamara illustrates something that has been described as the retirement syndrome. Namely, a willingness (for which we must be thankful, I think) to tell the truth about what an expert insider believed on essentially the day he retires from office. He no longer has a responsibility to his constituency in the Pentagon or to a president up for reelection. But he can now tell the public what he really always believed. A striking

example of that, of course, was the end of the long career of Admiral Rickover who literally (the day he retired essentially, and at least the week he retired) in Congress informed us that he believes that we did not need—never have needed—most of the nuclear weapons that we have produced, including most of the nuclear submarines that he designed and put into operation. This was not only excessive, but in its continuation of the arms race, dangerous and will probably lead to human extinction.

A very striking statement and from a source as revered by Congress as any military man is, but one like McNamara, in that we did not hear from him in the preceding thirty or forty years—when we could have used it in part. But it is not too late to use it yet. So I don't want to... I am giving a measured appreciation, but certainly a strong appreciation.

The same could be said of the next item, the Pastoral Letter on War and Peace by the Bishops. Their application of just war theory to nuclear weapons (in which they find nuclear weapons failing virtually every test of the weapon that may be used in a just war) is an application that could have been made any year since 1945. I want to emphasize the grudging aspect of this, on, quite the contrary, as I have come to see, but it is another aspect of a rather late in the game, and... But by the same token, a judgment as McNamara's, like Rickover's, that is hard to impugn as coming from Doves, as coming from uninformed people, as coming from people who are not aware of the Soviet danger. Very few Catholic bishops can be red baited in that particular way.

And although of course their expertise can easily be criticized, they have clearly, as they say, studied that problem by now a lot more (and

been briefed on it) than let us say Secretary of Defense Weinberger had been by the time he arrived at some of these policies, early in office—perhaps even by now in some cases. And the expertise evinced—their judgment shown in the parts that you will read here, I think again, are worthy of being... The judgment that they show—in which experts to believe and how to hear the testimony that they have been given by people from the Defense Department and others—speaks very, very well for their practical good sense—even their strategic thinking. Again, of course, they come down very strongly against first use of nuclear weapons, and for reasons that do not flow from a pacifist position—which they do not adopt. There are some pacifists among the Bishops, but a small minority of them (as such people are a small minority among the population).

So they take the just war doctrine seriously. And in doing so, then, have to make empirical judgments as to the consequences under various circumstances of taking some of the actions they examine—such as initiating nuclear war. They apply their moral judgments as everyone should, everyone should, to their best reasoned understanding of what these consequences would be and what the alternatives are. And for example, something of a novelty that I wanted to bring to your attention in their moral analysis, is to look at the question of traces among gambles in effect. The fact is that ethical doctrine in general is not addressed very much. The question of choosing among what economists or statisticians call technically "lottery tickets" or "gambles" or "uncertain" prospects—actions whose consequences are uncertain.

Typically ethical analysis proceeds like most economic analysis by comparing alternatives whose consequences are understood to be certain and not looking very elaborately at uncertain prospects. Well in this case they faced the uncertainties of this. And their rejection of first use—that is the initiation of first use—that is the initiation of nuclear war under any circumstances (and that is the position they came to, to the dismay of the Defense Department and the Administration) is not based on a judgment that any use of nuclear weapons must escalate to all-out war; nor that it must escalate, must increase, to a use, a major use, against humans, I'm sorry, against civilians in general. They recognize the possibility (which they were briefed on) that a nuclear weapon could be used against a satellite and could stop there, or could be used against a ship at sea with no civilians anywhere in the vicinity, or tanks in a desert. There are possibilities.

They do not assume that it is necessary and certain that that would escalate. I believe they are correct in that. I don't believe it is certain. I believe their judgment is quite sound. And that is that they believe those witnesses who informed them that there could be no guarantee that any such use would not escalate to major use against civilians, and even that it would not escalate to all-out war. Moreover, that's part of it. Moreover, that the likelihood is in fact quite high. They wrote this before the data on nuclear winter, by the way, which would surely have even further reinforced their position. But—and they didn't get too much testimony on the command control problem, but they did get some. They got good testimony and used good sources (like

Desmond Ball and others and Steinbruner, whom they refer to) on the likelihood that escalation would follow. Which is not a small likelihood, but a high likelihood.

Even people who supported the MX like Harold Brown, former Secretary of Defense, has always said that the likelihood is that any use would escalate greatly, not the certainty, but the likelihood. How does one then judge that, in terms of values? Their conclusion is this. By the way, strictly speaking they do not rule out any use of nuclear weapons as some of the Bishops would have wanted them to do. They rule out first use as a morally acceptable move. You will be interested in this. I don't try to compete with this for a while. Okay? Um, they rule out first use. They rule out any use, any deliberate use against civilian population, and they rule out any use close to civilian population where the target might be a military base but the necessary effect would be major civilian population. This is even in retaliation, which is the only use they contemplate...or they leave open as a possibility.

They say there must be no misunderstanding of our profound skepticism about the moral acceptability of any use, even in retaliation. As I say they stop short of forbidding retaliation. The implication, the only thing they leave open, is the possibility of retaliation of against strictly military targets reasonably far from civilian targets, civilian population. But the point they make here is even the indirect effects of initiating nuclear war (initiating) are sufficient to make it an unjustifiable moral risk in any form. I am emphasizing this because critics of the Bishops, supporters of the weapons programs of the

Administration and of first use, have on the whole misrepresented what they are saying enormously and simplified it and implied that they take very simplistic positions and extrapolations which are not valid. I think the criticisms are uniformly invalid, whether just based on very unfriendly reading, let's say, and unfair and inaccurate reading of what the Bishops have actually said.

Q:

I'm sorry? I followed the — that's it? No more? Ah, where did that reading list go? I thought there was another one. Oh well, then there was my open letter. I'll get to that in a minute. I'll get to that. I wanted to, excuse me?

Q:

Thank you. Well, let's see. I don't want to spend too much time on this but, oh I see, this is the chart by Howard Morlin. It would have been nice to portray it up here. It is a little easier to see than this, but the basic thing to notice here simply is if you look at this side, the 100%, you will notice, and think of when some of these things came in, the Minute Man 312, which is about a fifty percent, as I say, it came in as I recall about 1965. Or, yes, I think that's right. The minute 12A did not come in—this advanced one, which gets you up here now to 60%—began to be deployed in 1977. Notice that the corresponding weapon,

the SS-18 Mod 4, which is about the same—about 60% in both cases, started to come in 1981 and is still being installed.

Yes, this is kill probability, first strike effectiveness. Kill probability meaning an enemy hardened missile in a silo, or a hardened command post. So you get this then by '81, and this is the condition I have talked about that we have arrived at now, more or less. Not all these weapons are fully installed, but within the next year or two they will be. The Trident I Missile, known as the C-4, um, there is a mistake here. Oh that's a Titan I was reading—that's not a Trident. The Trident I is way down here. Now that will shift up with the NavStar system at some future date—this Trident I. But like the Poseidon, that's way down—as are all these Soviet weapons down here. So when you are down in this level, let's say you had only these weapons which tend—you would not have a silo busting capability. Your land-based forces would be immune as our sea-based forces are immune in any case.

We are not showing any submarine warfare on this at all. Notice then the big jump that you take. Essentially the next generation of missiles now being tested on both sides, the first MX test was last, I should remember very well, June, yes, it was, in fact it was about June 18, something like that. In fact, it was just a couple of days before this last item on the list, my open letter. This is June 17th. This was dated the day that we sat in around Livermore Laboratory. And I had just come to that action from the MX test two days earlier, so I think it was like the 15th, might have been the 14th. June 15th of last year. First test of the MX.

That's now a weapon you will see up here in the 100% level, and the Soviets are allegedly testing a weapon comparable to it though they, I presume, they do not have that accuracy yet. But they may have the kill probability, of course, because warhead yield can compensate for accuracy to some extent. We are still three to five years ahead of them in accuracy. Eventually, of course, they will get there, that accuracy too. Which will make these weapons more accurate. But notice—it doesn't make any difference, make these things more accurate. They are already at the 100% level. Likewise make these things more accurate, but these don't exist yet. Notice all the weapons we are building—the new weapons—are up at that level. That also includes the Midget Man they are talking about as a possibility. Cruise, air, sea, so forth, Pershing, Trident II and so forth. And likewise this very large number, and... Are you showing here—what are you showing here, the numbers? Is this something to do with the numbers?

TA—Yes, each one of those counts for 50 warheads. 95×50 .

Oh 95 times 50, okay. A lot of warheads up there. Thousands and thousands we are building.

Q: Some of those triangles are up in the 100% bracket, are filled in.

The filled in show what already exists, okay? So each triangle stands for 50. The solid triangles are weapons that already exist.

These hollow ones are ones that do not exist with the exception of the Cruise Air, the air launch cruise, the MX, of course, does not yet exist, the SS-18 1 and 3, these are single warhead missiles with quite large warheads. So they already have this high kill probability. The others do not yet exist. Okay?

In short, to allow the arms race to continue, which every proposal that has been mentioned by everybody, with the exception of the freeze proposal (and another exception could be said to be George Kennan's deep cuts proposal, but one must assume that that is accompanying a freeze; he does implicitly assume a freeze and then emphasizes reduction, so that is not a real difference) every other proposal made by any president (well, we are talking now about the last administration and the current administration) accepts all of these types coming into existence. Not necessarily in all the same numbers that are currently programmed. Agreements could lead to smaller programs, but they assume all these coming in.

It will have been—I'll now go back over a few of these things to make the program points I want to make. Be clear... I could not agree more with McNamara and with the Bishops on the importance of the no first-use condition. I believe that the freeze campaign (of which I am part, but I am part of a number of campaigns, in effect) the freeze campaign I think has underrated the significance of the no-first use. They felt that the relation of that to NATO strategy and to alliance questions was such that it would raise too much controversy to get into the question of first use in NATO, and that it would be better to concentrate just on the weapons.

Even given these weapons, however, I would say they don't come into play either as threats or with the real likelihood of being, used unless nuclear weapons had actually been used. There is an interaction between the two types of weapons. The purpose, I believe, so far as they have a strategic purpose, and I believe they do, the purpose is largely to make U.S. first use look safer. Because the existence of these weapons would deter Soviet second use. The way I put that last time was that the existence of these weapons would deter the Soviets from committing themselves to providing a nuclear umbrella to their allies of the kind we offer to our allies. In other words, to deter the Soviets from committing themselves to retaliate to a use by the U.S. of nuclear weapons against their allies.

This is the issue that was raised in the Quemoy crisis, you recall, when the Soviets backed off of giving the Chinese that assurance. I believe I disagree with McNamara and some others (and York for example) in saying that the credibility of these things is so low, the risks of using them are so great, that it isn't even possible that we will threaten them. Therefore, they cannot lend any credibility to the threat of U.S. first use. Such people are led to assert that the actual balance in 1958 had no bearing on the fact that the Chinese did back off, and that the Russians backed off. I don't believe that. Frankly I don't believe that makes sense. I don't believe it is true empirically.

People who are basically on my side of this of the program, like McNamara and many other arms control people, are very unwilling to seem to concede to what they see as the right wing—to the hawks to the

armors—the notion that these weapons possibly have any effect, any use whatever. I think that keeps us from perceiving the felt coherence of the policy to the people who back it—to the White House people who advocate these things. It keeps us from predicting the kinds of weapons they actually will go for. And I think it underestimates the risks that a president faced with an ongoing war, which he is about to lose, will actually be led to use the weapons. That's... In other words, all I'll say here, is read McNamara critically, and all of these things critically. At least don't assume that I am putting this out to you, that I agree with everything they are saying.

I am trying to make clear now what parts I do agree with, for what that's worth. Again I would say when McNamara or Herb York disagree with me, for sure, they deserve to be taken seriously. And they are by me and should be by you as well. One should consider the possibility that what I am saying is wrong when I disagree with them, and I do do that. And you may reach a different conclusion from me on this point.

Again, the freeze chose not to explain the urgency, the need for a freeze, in terms of the characteristics of the weapons being bought. On the whole, they did not emphasize, they have not emphasized yet the first strike nature of these weapons. Because, for various reasons, but one calculation is they don't want to seem to give credence to those who argue that vulnerability does matter, that one side or the other might find a reason to strike first, that there might be reasons in which these weapons would be worthwhile.

Basically, though, I think the real reason is that the public is so unfamiliar with the argument, so unfamiliar with the very possibility

that these weapons could be used first, that the freeze, and Randy Forceburg and others made the choice, and Randy, by the way, Randy's analysis of strategy, I would say, is like Chris Payne's and mine—is very close to mine. Of strategic analysts in the country, I think really of three who have very similar analyses on this point: Chris Payne, Randy Forceburg and me, on this point. But she chose (with the freeze and in that article) not to talk much about first use, not because she doesn't agree with me that it is a serious issue, but because, as I have said, the public is really very unfamiliar with it, and politically, rather than try to convince people of what I have spent a whole course, trying to convince some of you of the possibility here, it seemed better just to play to the fact that, to raise the fact that 30,000 weapons, which is what we have, is enough.

Intuitively, that appeals to the American people, and it's sound that it should appeal to them. Basically it is right. And that 20,000 weapons for the Soviets, even though it is less, is enough for them and might be enough for them to agree to a stop rather than to build these new weapons. The emphasis then is on waste, on the possibility that each new weapon adds a possibility of accident or unauthorized action, a basically, arms control, familiar classical arms control argument, which does not focus on first use aspects.

I have personally sensed a problem with this over the last couple of years (with this approach) which has made me uneasy. And when it comes to guessing what is good politically to do, I don't trust my own judgment very much at all. It effects what I end up doing, but I don't press my

opinions on other people very much. I don't sense what will work, what will organize people, what will work in a campaign. I'm not, I don't have a lot of experience in that, nor does Randy for that matter, but one opinion is about as good as another in many cases. We have just seen how surprised the experts could be by the first time that voters cast a vote in this campaign in New Hampshire. Nobody looked very expert in retrospect in predicting that outcome.

I have noticed that the way the freeze has been focused on number of weapons and numbers of warheads, one could derive the conclusion that it was about as easy to end the arms race, and about as useful to end the arms race five years from now, as now. Let's go back to 1979 when this was first being proposed. Already the assumption was, especially in 1980 when it..., late 1980, when Reagan was clearly the victor, the assumption was there was no chance of ending the arms race under Reagan. Therefore, it was to be ended or had to be ended in 1986, or 1985 at the earliest, under some new president. And it would take that long to organize people.

That looked like a plausible judgment at the time. And even though it is five years away, certainly I felt that this was a program that deserved the fullest support, and I spent a lot of 1980 actually raising money for the freeze—giving lectures, organizing on it, as a supporter for the bilateral mutually verifiable freeze, and so forth.

But I always had a great unease given my understanding of what the problem was. '85 looked too late to me. And I hope I was wrong. Because it still looks late to me. Now that we are up there, the war hasn't occurred, I am acting on the assumption that it is not too late.

And nothing is too late until the war occurs, the big war. But the problem was that these new weapons were all getting tested under Carter and Reagan. In particular the testing, which is the very late stage of things—the operational testing—is taking place under Reagan.

As you read in Elizabeth Drew's article, one of the things that led Les Aspen to switch to support of Reagan's program, basically (into the MX) was a belief that he really wasn't giving up anything because the MX was unstoppable. Any major weapons program of this general sort, Aspen concluded, is unstoppable. At most he could postpone it, or Congress could postpone it, for a year or two. But as Drew quotes him, "Then an Afghanistan will come along, or a recession will come along where the pressure for jobs is great, or the Russians will do one atrocity, something will happen, or a new president will come in. And the weapon will come back like the B-70, killed by McNamara, killed by Nixon, basically killed by, Ford began to bring it back a little bit, killed by Carter, back with us under Reagan."

There is the (not by the way, for strong strategic reasons) there is the case where the existence of an air force that likes above all to fly planes, not to sit in silos under the ground; and an aerospace industry, parts of which are happy to build planes rather than missiles, has a lot to do with the resurgence of that. So essentially he is saying at some point, basically when the concept is well defined, and so forth, and at the point that an air force decides it wants it, an aerospace industry decides it wants it—we are going to have it. No strategy involved.

It's going to happen. Therefore, I will join them. I will go along with that says Aspen and get what I can in the way of arms control of a kind that I might not get otherwise if I wasn't agreeable on this. The kind of deal that Carter made going along with MX to get Salt II. Very similar. The kind of deal that let's say that McNamara made going along with MERV in order to get started on arms control negotiations or to kill other weapons.

I do agree in my gut that there comes to be a point when certain events in human history become unstoppable (practically speaking) for some considerable period. And that has given me a sense of urgency in line with my other beliefs here that I would not have had if I simply believed the freeze platform as it stands. I believe the reason it is essential to end the arms race soon...

Let me go back to my feelings in 1978 with the neutron bomb, or '79-'80 with the MX coming along and the Pershing and Cruise, after December, 1979 when the Pershing and Cruise Missile was decided upon by NATO. I felt that at the point the Pershings were fully tested with the highest accuracy in the world—the only maneuverable, terminally guided warhead—the arms race would not stop until the Russians had tested a similar weapon, probably, not certainly. Now I have to hope I was wrong. I thought that when the MX was tested, it would become unstoppable although when Aspen made his decision, I was not convinced it was unstoppable before that test. But that the process of testing and producing would create a momentum, an investment, a commitment to it by industry and labor and senators relying on votes, that would make it not

certainly unstoppable, but what the Bishops would say—a risk that was not worth taking, a risk that should be avoided. That it was essential to stop the MX before it was tested, if possible. I failed on that. Essential to stop the Pershing before it was deployed, if possible, and before it was ended testing. It has been deployed, but it probably doesn't work yet. The testing isn't over yet. There are two sides of this. There is the domestic momentum for these things. Let me say right now I am going to go on till ten o'clock, you are dismissed after that. I will stay after that to answer questions for anybody who wants, for awhile

CHANGE TAPE SIDE

On one hand you have the domestic pressures that would be building up after you reach this tipping point suddenly, somehow. Where the process of building the weapon, you could get, gets very stable. And part of the stability of that dynamic process is the Soviet reaction, that there would be an interlocking here. It was believable to me that the Soviets would follow what seemed to me to be their best interests and do what they said they were willing to do—accept a bilateral, mutual, verifiable freeze before these weapons got tested, when neither side had them.

I was and am much less confident. I believe, by the way, that a bilateral freeze is available this year. It ain't going to happen this year. There is a fair chance it is available next year with a new president. It requires a president willing to propose it. It might not

be too late next year. I happen to be much less confident than some, and I hope they are right. Chris Payne actually disagrees with me on this point. But we are judging things that nobody can feel very confident about.

I am not confident the Soviets will be as willing to have a mutual freeze when we have fully tested and are under production of the MX and have fully deployed Pershing and the others. I think a dynamic gets underway there where their hawks, their military industrial complex says: the other side now has these weapons, we are not willing to stop this arms race leaving them with a monopoly of that capability. We have to have at least a comparable technological capability before we stop. At which point, by which point, we will have tested wholly new technical phenomena which at that point which will again be ahead of them if the arms race goes on without a freeze—without a moratorium—as is continued. That's the way I have seen it for some time.

I took the advantage of presenting, when there was a Green Peace trip to Leningrad (a couple of years ago in I guess it was '81, it was just before the previous Livermore sit-in, I recall, in June) I had a chance to go do a civil disobedience action in Leningrad. We were to release balloons over Leningrad from the Green Peace ship filled with helium with cards informing the Russian people how many tests they had actually had. That's a state secret in Russia. As it is now again a state secret in this country. Isn't that wonderful?

My problem with some of these policies is not that I am unaware or unappreciative of the difference between this country and Russia—quite

the contrary, what I am trying to fight is the convergence—mild as it may be—of policies. And of course, the new policy, as some of you know I am referring to, is of no longer announcing to our people low level tests in Nevada—in preparation no doubt for keeping us quite ignorant of the level of tests—which by the way is a secret that will not be kept from the Russian Government. Right? Their seismologists will know perfectly well when we have tested. It is our people who will not know the scale.

But anyway, the Russians have never been told how many tests they had. That is a state secret. Some Leningraders now picked up those leaflets, happen to know that. And we call on them to stop their tests unilaterally because their tests were keeping the arms race going—were hurting their security, hurting everybody's security. Essentially the same thing we said, that same year a bunch of us at Nevada test site, where we got arrested—as we were in effect arrested in Russia. We were confined to the ship with armed guard, hauled off immediately after the balloons went up.

It is rather, for a light touch here, that was one of the lighter moments of the cold war for me, when some soldiers (we had already been confined to the ship for wearing T-shirts in Leningrad saying in Russian "USSR Stop Testing Immediately,") put an armed guard on the ship. But then we were releasing these balloons from the hatch, and the soldiers jumped over the sides and were trying to stuff the balloons back in the hatch, you see. It was like putting the toothpaste back in the tube, you know, the bubbles back in the bubble bath. They were madly going down

here. Two Russian ships were racing around Leningrad Harbor. Some of our balloons, we'd put the helium the night before, and so a lot of it had leaked out, and some of the balloons were rather lethargic. And we had to push them up in the air like this, and then they would float, some of them, about a third of them, fell in the water.

So two naval boats then went around with long spears which they had apparently, either improvised, or had balloon piercing spears on their ship, to clean up the harbor. They did threaten us that we would be charged with polluting Leningrad Harbor, poking these balloons actually with long spears. Well tourist boats of Russians in the Harbor were watching this event with great interest. Little boys were going racing, getting the balloons that had gone on the other side, and then, oh and then they put cables on our ship. They ordered us out of the Harbor. We said that we had engine trouble. That wasn't entirely true, actually. And the departure from truth. And so they said that's all right. And they put cables on the ship and towed us out at high speed, out of the harbor for four and one half hours. After two hours, the Dutch Captain of the ship said "I fixed the engine. I think we can go now." And they said, "That's alright." And they gave us the bum's rush for another two and one half hours. We were well out to sea on this thing, then got off the boat.

The message I had brought to the Leningrad Peace Committee I can tell you was almost identical to the message I gave to Livermore, as you will read in this paper which we handed out in a slightly earlier form (a year earlier in 1981) at the Livermore action. Same thing. To their Livermore. "Is your ingenious, dedicated, conscientious, patriotic

effort to improve the security of your country by testing these new weapons succeeding in increasing the security of your country? Is it not in fact reducing the security of your country by increasing the likelihood that your country will become the target of a preemptive attack and by inducing in the U. S. exactly similar weapons?"

I won't reproduce the argument here. It is here for you to read. "Is it not the case—don't you know it if you think about it, that you are reducing your security by what you are doing?" And the whole story of their reaction to that would be interesting. Obviously I don't have time for it. The reaction very similar at Livermore is what we have been saying at Livermore.

This particular piece, of course, was in the spirit of telling them "You should stop testing, that's what you should do. Both because your actual testing is lowering your security, whatever we do. And because it is time for somebody," as I put it to them, "to stop talking about ending testing and to end testing. At least for a limited period. You have nothing to lose by it. The other side may join you." I gave them another argument in Russia which, of course, I couldn't make here, the comparable argument, that if the Russians were to stop testing unilaterally, there exists now (this was last year, two years ago, 1981) a movement in the United States which would be capable of giving Reagan a great deal of trouble if he tried to continue testing despite the fact that you had stopped.

He would try to continue. But I said, you know earlier this year, (this was 1981) I was with 18 people doing the first nonviolent civil

disobedience at the Nevada Test Site that had ever been done. All that the Franciscans were running this could pull together. First action they had ever been able to get together at that. 18 people. I said, if you stopped testing for six months, and Reagan tried to continue testing, there would be a migration to the Nevada Test Site that would look like the Mormon migration, I believe. And a lot of Mormons would be part of it, as a matter of fact. And we would camp out there. And I believe that's true, and I believe it would have been very wise for them to do that. The same argument could be made over here.

Obviously, there is not a Russian movement to appeal to in that case. Fortunately, there doesn't seem to be a need for one since it is not the Soviets who refuse to sign Salt II. It is not the Soviets who rejected the idea of a freeze, or of a comprehensive test ban, or who left the comprehensive test ban negotiations. The Soviet leaders say that they see their best interests where I would think they are wise to see their best interests—in a mutual end to the arms race. I wish they would be wise enough to see it in a unilateral end to the arms race. I think that would be totally sound for them.

They don't see that or—they haven't evinced that. But they have expressed, I think we would be too, but they haven't seen that, but they have proposed a bilateral end. No U. S. president has chosen to try to find out if they mean that—if they would be willing to do it. As I say, I am not confident that five years from now, if we tried to find out, we would find that they were still willing. I am afraid that at that point their Livermore and their Pentagon would tell them not yet. Not this

year. The U. S. has these weapons. We have to have them too. We have to have bargaining chips. We have to bargain from strength, etc., etc.

But, I would like to see the U. S. president at least challenge the Soviets to do what they have said they would be willing to do. And that is to come through with a total mutual verifiable freeze on the production as well as the deployment and testing of nuclear weapons. I haven't allowed myself much time to say what I think is possible, at this point—this year. But I will mention it.

Kennedy and Hatfield are currently (I mentioned this to some of you the other day) drafting legislation which calls for Congress to fence authorization funds—which is to say to make those funds conditional upon a certain condition: namely, upon Soviet testing of nuclear warheads, I'm sorry, funds for the testing of nuclear warheads or the testing of ballistic missiles. These two items being items that are thoroughly verifiable by national means without any further negotiation needed to provide new measures of verification.

So without any further negotiation, our satellites, our electronic surveillance, our infrared surveillance, our various kinds of surveillance—photographic—are quite enough to assure that such weapons as the Trident II, the Pershing could not be further tested, the Midget Man, the MX. Obviously the Midget Man is not the most dangerous of these. You could say it is the least dangerous. But as a reason for continuing the arms race, the MX comes with it, and that's the nature of this Skowcroft committee. The Midget Man does not compensate for the instability caused by the MX.

So the deal as Aspen and Skowcoff know perfectly well is a very bad one from the point of view of stability. Anyway, these weapons, likewise, none of these weapons could be tested without our knowing it. Cruise missiles are a somewhat different matter. They would probably require, they should be stopped too—for other reasons. But it would require some degree of on-site inspection, some degree of cooperation about the way the tests were conducted, where they were conducted and so forth. Cooperation which is possible in theory, which the Soviets, if they want to end the arms race must be willing to provide. But it would require further negotiation. The ballistic missile testing can be monitored entirely without any further negotiation, likewise the nuclear warhead testing.

So Congress would say "no funds will be available for such testing unless the Soviets are testing comparable weapons—are doing nuclear testing or testing ballistic missiles." The current wording actually talks about first-strike weapons, which limits this a little bit. It allows the possibility of production to continue with Trident I and Poseidon. This hasn't been determined yet. Let me make clear, my own attitude is if (I can almost sum up the course, this half of the course, part of the course, by saying) if the only weapons either side were building were weapons like Trident I or Poseidon there would still be the problem of accident or unauthorized action and so forth. War would not be impossible.

I would have nothing like the same sense of urgency that I actually am acting on. I wouldn't have bothered to put this course together, for

example. Which is not only of course an effort to educate you, to bring things to your attention, but to clarify the things in my own mind, help get it written and so forth, and explain it. But that isn't the way I would be spending my life. If all either side was building was essentially invulnerable weapons that did not threaten the other side's weapons, like these weapons here on this side.

That is not what is happening. The importance of the freeze, I repeat, is to get these weapons and they are first strike weapons. So when you say you are getting rid of first strike weapons as Kennedy's wording currently does (it may change) that gets the most important weapon. You would then be reliant on presidential certification. Obviously it has its problems as we have seen in El Salvador. But it actually would be difficult for the President to claim the Soviets were testing and make that case convincing to Congress if it were not true. There is enough data available (including worldwide data in other countries) that would make it hard to be successfully lying about this.

If Congress were to pass such legislation, if the Soviets then responded by stopping their testing, the major part of the arms race would be over. We would not have dealt with production immediately. That would require further negotiation. But the negotiation could go forward in a context not of a continuing race on these matters, but in the context of a halt to the testing which is critical, and to the deployment, by the way, which is also verifiable. It would be an entirely changed concept.

I think it, by the way, unlikely that we would get Congress to do that unless they basically accepted the no-first use philosophy. The

purpose of these weapons is to support first-use. Without a first-use philosophy, the need for them almost disappears, and I think Congress would stop it.

What's the chance for such a thing? Well, I won't be undercutting him if I say that when I mentioned this to Herb York who had not heard of the proposal, a couple of weeks ago, his first reaction, and that of the historian with him, Alan Gregg, who works with him on articles, was "Congress would never do that. Congress has never done such a thing." That's wrong, as I pointed out to them. The way the Vietnam War ended was that Congress cut off the funds for the bombing of an ongoing war, in an ongoing war, and funds for combat operations.

Our Constitution permits that to happen. It makes it possible. In few other countries would that be possible. It was possible, and it was done. It took actually four years from the time that Senator Biddell proposed such an approach in September of 1969 until Congress finally got the votes to cut off the funds in 1973. During that time four and one half million tons of bombs rained down on Indochina. Two World War II's. It was not a quick process of ending the war. And it took a lot of luck. It took a lot of horrors. It took a lot of presidential mistakes.

There was no guarantee that such an approach would ever work, or that Congress would ever bring itself to do it. In fact when one person, when I spelled this out to, said well you're telling me that the circumstances were so special they could never be reproduced. The fact is we cannot tell ourselves that it can't be done because it has never been done. It

has been done. We do not have a total precedent of failure. The one precedent, in fact, is of success even though it took too long. I have been on the phone the last week urging people in Congress forward on getting this moving, even though it is unlikely in an election year that much will happen with it.

If it goes anywhere, it will be because of effective lobbying by American citizens like yourselves and your parents and your friends to get this approach started—holding Congress accountable for ending the arms race. In an election year and beginning by telling them that they can be fired under our system if they choose—for whatever reason, conscience, deals, ambition, whatever it might be—to fail to represent us in this particular respect. As I say, Goodell could not get a single co-sponsor in 1969. Bit by bit the later McGovern-Hatfield acquired sponsors. It is that long process which I find was forgotten by all the staffers. They were too young to know it. And Hatfield and Kennedy who did not know that past history, that led me to emphasize to them, "Don't wait till next year to start this process." Even though most people's attention is on the presidential campaign. My guess is that no president—even one who promises us he will propose a moratorium or a freeze—(and by the way, Hart has now promised that his first day in office he will propose a six month moratorium on nuclear testing).

Cranston proposed that in his first day of office, he would have a six month moratorium on both testing and missile testing. I would hope Hart would go in that direction, and it will take pressure to do it. But he said he would want to hear grass roots effort before he would do

that. That would be a good direction. That would be very good. I don't think he would carry through on that in the face of the resistance to the institutional inertias in our country that press for a continuation of the arms race if those pressures were not countered by a grass roots popular effort which was refracted through Congress.

Year by year we have a bi-yearly, bi-annual ability to put Congress to the test that if they don't see the light, they will feel the heat, that they could lose their jobs if they don't represent us. The ability to affect Congress is greater than to affect the White House (as turned up in the Vietnam War, very clearly) and I would say that if a President did not face a Congress that had been led by the public to conclude that it was willing to take the ball and to end the arms race on its own, if the President wouldn't do it, I don't think the President would do it.

I don't think the President would do it unless he were facing such a Congress. So I think we shouldn't delay by a month or a year getting that process started—of educating and bringing about such a Congress—the kind of Congress that proved once able to stop a War. The legislation is being drafted now, so this defines, I think, some efforts that some people can make. There is a lot more to say, which I am happy to say to you, but I promised to stop at ten o'clock, so I will do it. Thank you.